

SUVOROV, K.; SHERSTOBITOV, I.

Effect of friction in the diaphragm clamping on the accuracy of the readings of manometric instruments. Vestis Latv ak no.4: 49-52 '62.

1. Institut avtomatiki i mekhaniki AN Latviyskoy SSR.

L 26955-65 EWT(m)/EFT(c)/T Pr-4 BW/DJ

ACCESSION NR: AT5003524

S/2681/64/000/011/0173/0190

AUTHOR: Sherstobitov, I. I.

TITLE: Determination of the characteristics of a corrugated membrane with account of the effect of the friction forces in the clamping frame

SOURCE: AN LatSSR. Otdeleniye fizicheskikh i tekhnicheskikh nauk. Voprosy dinamiki i prochnosti, no. 11, 1964, 173-190

TOPIC TAGS: corrugated membrane, friction, clamped membrane

ABSTRACT: The article deals with the characteristics (load vs. displacement of the center) of corrugated membranes in the presence of finite friction force in the clamping device. The general formulation of the problem is analogous to that used in a preceding article in the same source. The solution is made up of two parts, one for the clamp and one for the corrugated membrane. Each problem

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is solved accurate to one constant, after which the two solutions are joined together and made continuous on the internal contour of the clasp and the required constants are then determined. This establishes the dependence of the sag of the center of the membrane on the variable external load, with account of the friction force. A numerical example is given in the conclusion and the causes of some deviations from the actual results are discussed. Orig. art. has: 2 figures and 66 formulas.

ASSOCIATION: None

SUBMITTED: 00

ENCL: 00

SUB CODE: AS

NR REF SOV: 005

OTHER: 000

Card

2/2

SHERSTOBITOV, I.N.

Let us save 10 million kw.-hr. Elek.i tepl.tiaga 4 no.4:16 '60.  
(MIRA 13:6)

1. Zamestitel' nachal'nika 3-go uchastka energosnabzheniya,  
stantsiya Berdyaush, Yuzhno-Ural'skaya doroga.  
(Electric power)

L 00098-66 EWT(1)/EPA(s)-2  
ACCESSION NR: AP5017466

UR/0144/65/000/006/0694/0701  
621.316.3+621.314.2

AUTHOR: Sherstobitov, I. S. (Candidate of technical sciences, Senior research associate)

TITLE: Some peculiarities of commutation in rotary inverters with singly-split poles

SOURCE: IVUZ. Elektromekhanika, no. 6, 1965, 694-701

TOPIC TAGS: inverter, rotary inverter, commutation

ABSTRACT: Some considerations are set forth re the commutation conditions in 2-winding rotary inverters with singly-split poles. At constant d-c and a-c voltages and frequency, the reaction mmf has the same direction as the d-c mmf, this fact hampering the commutation. However, by properly choosing the direction of rotation and by providing commutating poles (partial-pole fluxes linked with d-c winding rotate in opposite directions), both the field current/load-current characteristic and the commutation can be made satisfactory. The theoretical considerations were verified by some experiments with a 1.5-kw, 8000-rpm, 115-vac, 27-vdc rotary inverter. Orig. art. has: 4 figures and 20 formulas.

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L 00098-66

ACCESSION NR: AP5017466

ASSOCIATION: Tsentral'nyy nauchno-issledovatel'skiy institut (Central Scientific  
Research Institute)

SUBMITTED: 09Jun62

ENCL: 00

SUB CODE: EE

NO REF SOV: 006

OTHER: 00

*SR*  
Card 2/2

KRASNOSHAPKA, MAKSIM MITROFANOVICH, doktor tekhn.nauk, prof.;  
SHERSTOBITOV, IVAN SERGEYEVICH, inzhener

Transfer coefficient of an inverted single-armature converter  
with singular splitting of the poles. Izv. vys. ucheb. zav.;  
elektromekh. 4 no.5:30-34 '61. (MIRA 14:7)  
(Electric current converters)

SHERSTOBITOV, I.V., inzh.

Scientific conference on the results of thermodynamic, technical,  
and economic studies of steam gas systems. Izv. vys. ucheb. zav.;  
energ. 7 no.3:118-119 Mr '64. (MIRA 17:4)

1. Saratovskiy politekhnicheskiy institut.



POPOV, A.I., inzh.; SHERSTOBITOV, I.V., inzh.

Conference of the readers of our periodical. Izv. vys. ucheb.  
zav.; energ. 7 no.10:119-121 O '64. (MIRA 17:12)

1. Seratovskiy politekhnicheskoy institut.

L 08061-67 EWT(1)/EWP(m)  
ACC NR: AT7001675

SOURCE CODE: UR/0143/66/000/003/0047/0052  
40  
B.

AUTHOR: Andryushchenko, A. I. (Doctor of technical sciences; Professor); Shorstobitov, I. V. (Engineer)

ORG: Saratov Politechnical Institute (Saratovskiy politekhnicheskiy institut)

TITLE: Flow of a viscous thermally and electrically conductive gas in a magnetic field

SOURCE: IVUZ. Energetika, no. 8, 1966, 47-52

TOPIC TAGS: constant magnetic field, electric conductivity, ideal gas

ABSTRACT: An analysis of the flow of a viscous, thermally conductive ideal gas with considerable electrical conductivity in a magnetic field. The flow of the gas takes place in a channel with constant longitudinal velocity in a constant induction magnetic field. The method presented allows preliminary calculation of the basic characteristics of the flow of an actual electrically conductive gas in a magnetic field (pressure, density and temperature of gas, section of channel and length) in consideration of friction and of cooling. When the gas flows with a constant velocity through a channel with an unchanged magnetic gap, the effectiveness of interaction of the gas with a magnetic field is sharply reduced with length (load coefficient for the initial data accepted over the length of the channel  $X=9$  meters reduced by a factor of three). Orig. art. has: 3 figures and 24 formulas. [JPRS: 38,490]

SUB CODE: 20 / SUBM DATE: 08Jun66 / ORIG REF: 005

UDC: 621.180+621.44

Card 1/1 *da*

0924 1443

ORLOV, V.I.; YESIN, O.A.; SHURYGIN, P.M.; SHERSTOBITOV, M.A.

Investigation of processes in the interaction of chromium oxide  
with silicon, manganese and iron by the electromotive force method.  
Izv.vys.ucheb.zav.; Chern.met. 4 no.5:28-36 '61. (MIRA 14:6)

1. Ural'skiy politekhnicheskii institut.  
(Chromium alloys—Electrometallurgy) (Electromotive force)

L 64552-65 EWP(e)/EWT(m)/EWP(t)/EWP(k)/EWP(z)/EWP(b) JD

ACCESSION NR: AP5020770

UR/0226/65/000/008/0050/0054

AUTHOR: Sherstobitov, M. A.; Popel', S. I.; Tsarevskiy, B. V.

32  
31  
B

TITLE: Method of determining the rate of penetration of melts into capillary porous materials

SOURCE: Poroshkovaya metallurgiya, no. 8, 1965, 50-54

TOPIC TAGS: liquid metal, foam metal, electric conductivity, electric resistance, electrodynamics, iron oxide, silicon dioxide, magnesium

ABSTRACT: The method consists in continuous determination of the level of the melt in the sample by measurement of the electrical resistance. It is applicable to systems in which the electrical conductivity of the impregnated body is substantially different from that of the starting body. A study was made of the movement of melts of  $\text{FeO-SiO}_2\text{-Fe}_2\text{O}_3$  into pressed samples made of powders of fused magnesium at 1220-1420 C. The movement was measured with an automatic electrical potentiometer. The samples were cylindrical with a diameter of 20 mm and a height of 40-50 mm, pressed from a moist (7% water) mixture of pulverized

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L 64552-65

ACCESSION NR: AP5020770

fused magnesium of known particle size and refractory clay (9%). Porosity of the samples was 37.5-38.5% and was practically identical over the length. The percentage of open pores exceeded 99%. Simultaneous temperature measurements were made with platinum-platinum rhodium thermocouples. Results showed that the depth of penetration increases with time according to the parabolic curve  $l^2 = K \tau$ , where  $l$  is the length of the sample and  $K$  is the penetration constant which increases with a decrease in the proportion of silicon dioxide and with a rise in temperature. Orig. art. has: 4 formulas, 2 figures.

ASSOCIATION: Ural'skiy politekhnicheskiy institut S. M. Kirova (Ural Polytechnic Institute)

SUBMITTED: 30Jun64

ENCL: 00

SUB CODE: MM

NR REF SOV: 008

OTHER: 004

*mlb*  
Card 2/2

SHERSTOV, G.I.; POPPE, S.I.; PAVLOV, V.V.

Kinetic characteristics of coke burning in a layer of a sinter  
charge mixture. Izv.vys.ucheb.zav.; Chernomet. 8 no.8:10-15 '65.  
(MIRA 18:8)

I. Ural'skiy politekhnicheskii institut.

ACC NR: AR0035412

SOURCE CODE: UR/0137/66/000/009/A011/A011

AUTHOR: Popel', S. I.; Sherstobitov, M. A.; Tsarevskiy, B. V.

TITLE: Determination of the speed of penetration of molten oxides in capillary-porous materials

SOURCE: Ref. zh. Metallurgiya, Abs. 9A70

REF. SOURCE: Sb. Poverkhnostn. yavleniya v rasplavakh i voznikayushchikh iz nikh ver. kazakh. Hal'chik, 1965, 550-557

TOPIC TAGS: porosity, metal surface impregnation, powder metallurgy, refractory oxide

ABSTRACT: The authors determined the rate of impregnation of pressed samples of powders of fused magnesium by iron-silicate melts at 1220 -- 1420°. For the investigated compositions, the height  $l$  of the impregnated part grew with time parabolically, like  $l^2 = kt$ , where  $k$  is a constant. It is established that  $k$  decreases with increasing fraction of  $SiO_2$  in the melt and increases exponentially with increasing temperature. As the grain dimension increases from 0.10 to 0.60 mm, the value of  $k$  increases at 1345° from 0.31 to 1.28 cm<sup>2</sup>/sec. The influence of the temperature on the rate of impregnation is due to the change in the viscosity and the contact angle. 3 illustrations. Bibliography, 15 titles. D. Kashayeva. [Translation of abstract]

SUB CODE: 20, 11

UDC: 669.046.587:666.764.1

Card 1/1

KRIVORUCHENKO, I.V.; UGOLEV, A.M.; SHERSTOBITOV, O.Ye.

Effect of total removal of the duodenum on blood lipids. Dokl.  
AN SSSR 149 no.5:1225-1228 Ap '63. (MIRA 16:5)

1. Institut fiziologii im. I.P.Pavlova AN SSSR. Predstavleno  
akademikom V.N.Chernigovskim. (DUODENUM) (LIPID METABOLISM)



SHERSTOBITOV, P.; BOGOMOLOVA, M.

Food control. Obshchestv.pit. no.12:48 D '58. (MIRA 11:12)

1. Direktor TSentral'noy sanitarno-pishchevoy stantsii g.Moskvy (for Sherstobitov).
  2. Zaveduyushchiy sanitarno-pishchevoy laboratoriyey Leninskogo rayona g.Moskvy (for Bogomolova).
- (Food adulteration and inspection)

CHYYMYLOVA, B.; SHERSTOBITOV, V.P., red.; BUTENKO, N.P., red.izd-va;  
ANOKHINA, M.G., tekhn.red.

[Workers of Kirghizistan in the struggle to fulfill the second  
five-year plan for industry and transportation, 1933-1937]  
Trudiashchiesia Kirgizii v bor'be za vypolnenie vtoroi piati-  
letki v oblasti promyshlennosti i transporta, 1933-1937. Frunze,  
Izd-vo Akad.nauk Kirgizskoi SSR, 1959. 56 p. (MIRA 13:7)  
(Kirghizistan--Industries)  
(Kirghizistan--Transportation)

SHERSTOBITOV, Viktor Pavlovich; OROZALIYEV, K.K., kand. ist. nauk,  
red.

[The New Economic Policy in Kirghizistan, 1921-1925] No-  
vaia ekonomicheskaja politika v Kirgizii (1921-1925).  
Frunze, Ilim, 1964. 610 p. (MIRA 17:12)

GRISHKOV, Ivan Grigor'yevich; SHERSTOBITOV, V.P., otv. red.

[Electrification of Soviet Kirghizistan; an historical  
essay] Elektrifikatsiia Sovetskogo Kirgizstana; istori-  
cheskii ocherk . Frunze, "Ilim," 1965. 120 p.  
(MIRA 18:12)

LYUR'YE, G.S.; SHERSTOBITOVA, L.A.

Conference on the mechanization of work of engineers and  
technicians. Mashinostroitel' no.12:43 D '61.

(MIRA 14:12)

(Office equipment and supplies)

SHERSTOBITOVA, M.; POLUEKTOV, N.; ANPILOGOVA, Yu.; YAKUSHINA, O.;  
ORLOVSKAYA, R.

More on veterinary control. Mias. ind. SSSR 29 no.2:20 '58.  
(MIRA 11:5)

1. Barnaul'skiy myasokombinat.  
(Meat inspection)

SHERSTOBITOVA, V.V.

MATUSIS, Z.Ye.; SHERSTOBITOVA, V.V.

Changes in the phagocytic activity of leukocytes in human blood during anesthesia. Biul.eksp.biol. i med. 43 no.1 supplement:36-38 '57. (MIRA 10:3)

1. Iz bakteriologicheskoy laboratorii (zav. - starshiy nauchnyy sotrudnik Z.Ye.Matusis) Gor'kovskogo instituta vosstanovitel'noy khirurgii, travmatologii i ortopedii (dir. - dotsent M.G.Grigor'yev) Predstavlena deystvitel'nyy chlenom AMN SSSR V.N.Chernigovskim.

(ANESTHESIA, eff.

on phagocytic activity of leukocytes)

(LEUKOCYTES

phagocytic activity, eff. of anesth.)

(PHAGOCYTOSIS

eff. of anesth. on phagocytic activity of leukocytes)

SOV/142-58-5-20/23

6(6)

AUTHOR: Sherstoboyev A.A., Engineer

TITLE: Chronicle. A conference on Problems of Using Television in the National Economy

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy - radiotekhnika, 1958, Nr 5, pp 626-629 (USSR)

ABSTRACT: A scientific-technical conference convened in Leningrad on April 3 and 4, 1958. The session heard the following reports: V.I. Sard-yko, on the television industry and the prospects of its develop-ment in the Soviet Union; A.M. Shpalenskiy, B.F. Barshteyn and V.S. Polonik on serial production of television sets; B.I. Makare-vich on the use of television for contactless measuring of forged pieces during the forging process; A.G. Kondrat'yev on the use of television in the national economy. At the conference several tel-evision sets were demonstrated. There are 6 figures.

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SUBMITTED: April 10, 1958



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SOV/142-2-4-23/26

AUTHOR: Sherstoboyev, A.A., Engineer

TITLE: The Jubilee Scientific-Technological Conference at the Leningrad Electrical Engineering Institute imeni V.I. Ul'yanov (Lenin)

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Radiotekhnika, 1959, Vol 2, Nr 4, pp 500-501 (USSR)

ABSTRACT: The 6th conference of the professorial and instructor staff was held at the Leningradskiy elektrotekhnicheskii institut imeni V.I. Ul'yanova (Lenina) (Leningrad Electrical Engineering Institute imeni V.I. Ul'yanov (Lenin)) from April 13 to 15, 1959. The conference was dedicated to Aleksandr Stepanovich Popov's 100th birthday anniversary. Doctor of Technical Sciences, Professor N.P. Bogoroditskiy, Laureate of the Stalin Award and Director of the Institute, opened the conference.- Corresponding Member of the AS USSR, Doctor of Technical Sciences, Professor V.I. Siforov made a speech on "Aleksandr Stepanovich Popov and the Development of

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SOV/142-2-4-23/26

The Jubilee Scientific-Technological Conference at the Leningrad  
Electrical Engineering Institute imeni V.I. Ul'yanov (Lenin)

Radio Electronics". - Doctor of Geological and Mineralogical Sciences, Professor A.G. Grammakov made a speech on "The Activity of Aleksandr Stepanovich Popov as a Professor of Physics at the Electrical Engineering Institute", Ye.A. Popova-K'yandskaya, A.S. Popov's daughter and director of the memorial museum of A.S. Popov at LETI made a speech on "Aleksandr Stepanovich Popov - the First Elected Director of the Electrical Engineering Institute". - The Merited Worker of Science and Engineering of the RSFSR, Laureate of the Stalin Award, Doctor of Technical Sciences, Professor B.P. Kozyrev read the paper "The Ultimate Sensitivity of Radiation Receivers at Low Temperatures". - An exhibition of printed scientific works of the workers of the Electrical Engineering Institute was shown in the conference hall. - Doctor of Technical Sciences, Professor S.E. Khaykin's paper was titled "Radio Astronomy". - Candidate of Technical Sciences, Docent L.G. Merkulov discussed some physical and engineering

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SOV/142-2-4-23/26

The Jubilee Scientific-Technological Conference at the Leningrad  
Electrical Engineering Institute imeni V.I. Ul'yanov (Lenin)

aspects of using ultrasound waves. The work of S.Ya. Sokolov was the basis of a new branch of sciences - the inspection of materials by ultrasound. - Doctor of Technical Sciences, Professor Ya.A. Ryftin read the report "The Normal Resolution of a TV Tube and System". Doctor of Technical Sciences, Professor Yu.A. Yurov's report was titled "The Latest Achievements in Super-high Frequency Ferrite Engineering". He stated that presently only a small amount of the problems has been solved which are connected with the propagation of radio waves in ferrites. Ferrite engineering is still inadequately used. One of the limiting factors is the insufficient development of mathematical investigation methods. Ferrites may be used for creating parametric amplifiers for travelling and standing waves having a low level of own noises. - The conference was concluded with Doctor of Technical Sciences, Professor N.G. Boldyrev's paper, "Theoretical Problems

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SOV/142-2-4-23/26

The Jubilee Scientific-Technological Conference at the Leningrad  
Electrical Engineering Institute imeni V.I. Ul'yanov (Lenin)

of Analysis and Synthesis of Controlling Mathematical  
Machines".

SUBMITTED: April 20, 1959

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9 (2)

06371

SOV/142-2-4-24/26

AUTHOR: Sherstoboyev, A.A., Engineer

TITLE: A Conference on the Theory and Practice of Transistor Application

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Radiotekhnika, 1959, Vol 2, Nr 4, pp 501-502 (USSR)

ABSTRACT: A scientific conference on the theory and practice of transistor application was held in Leningrad from April 6 to 10, 1959. The conference was organized by the Leningradskoye pravleniye NTORiE imeni A.S. Popova (Leningrad Directorate of NTORiE imeni A.S. Popov), LKVVIA imeni A.F. Mozhayskiy and by the Tsentral'noye byuro tekhnicheskoy informatsii Lensovnarkhoza (Central Bureau of Technical Information of the Lensovnarkhoz). A.A. Ignat'yev discussed electrical and operational characteristics of new transistor types, the technological peculiarities in their manufacture, technical specifications, ultimate values of basic parameters and operating conditions of these transistors. -

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SOV/i42-2-4-24/26

A Conference on the Theory and Practice of Transistor Application

V.K. Labutin read the report "The Mixed Pi-shaped Equivalent Network of a Transistor and the Frequency Dependence of Y-Parameters". He had obtained accurate expressions for the Y-parameters thru elements of a pi-shaped, seven-element equivalent network. He recommended a standardized form of recording the Y-parameters, using a normalized function for expressing all active components of the Y-parameters. He calculated and plotted a system of normalized functions which may be used for rapid determination of the frequency dependence of active and reactive components of Y-parameters. Two tolerance groups were introduced for the numerical ratios of the values of equivalent circuit elements; accordingly, two groups of expressions were obtained, for the direct calculation of the Y-parameters and for using the normalized function. - In their report "A Simplified Bridge Method of Measuring Complex Parameters of Transistors", L.Ya.Shapiro and G.P. Sherov-Ignat'yev suggested a simplified me-

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SOV/142-2-4-24/26

A Conference on the Theory and Practice of Transistor Application

thod of bridge measurements with considerably shorter calculations. - In L.S. Berman's report "Approximated Methods of Calculating Transient Processes in Transistors with Strong Signals", the general case was discussed, when the e.m.f. of the input oscillator and its resistance are given. - Yu.K. Barsukov reported on "The Transient Blocking Process in Junction Diodes at High Currents". The investigation was conducted on DG-Ts diodes at currents of 13 amps (about 1000 amps/cm<sup>2</sup>). N.S. Nikolayenko read two reports, "The Energy Analysis of Multi-Stage Transistor Amplifiers" and "A Transistor Amplifier for Automatic Measuring Instruments". In the first report, he suggested an analysis method of great accuracy by which any transistorized amplifier circuit may be checked. It provides also a direction for the synthesis of an amplifier and may be used for accounting the introduction of additional elements into a circuit. - G.N. Novopashenny, a worker of LPI imeni M.I. Kalinin, read the paper "Transistorized Am-

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A Conference on the Theory and Practice of Transistor Application

plifiers for Investigating Rapidly Changing Displacements and Accelerations". He discussed equipment working on piezoelectric transducers with an oscilloscope. It includes a preamplifier with a high impedance, voltage amplifiers, integrating amplifiers and power amplifiers. - G.P. Sherov-Ignat'yev discussed "The Thermal Balancing of Transistorized Videoamplifiers" and presented a method of using drift transistors for building transistorized videoamplifiers with thermal balancing. - A.P. Molchanov, A.M. Utkin, B.N. Murav'yev dealt with some problems of building transistorized frequency-selective amplifiers. V.S. Protasov read the report "The Frequency Stability of Transistorized Self-Oscillators". - T.D. Gavra reported on "Transistorized Quartz Self-Oscillators". He explained experimental investigations of the frequency stability of different quartz oscillator circuits built with new transistor types in the frequency range of up to 40 Mc and at temperatures of up to +70°C. - R.T. Safarov and R.I.

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A Conference on the Theory and Practice of Transistor Application

Zverev reported on control devices composed of transistors and ferrites. The authors discussed general properties of some control devices, designed for performing the frequency modulation of the automatic frequency control of oscillators. They presented the results of an experimental investigation of control elements composed of semiconductro diodes and transistors, and also of ferrovariometers in the frequency range of 5-20 Mc. - The application of transistors in wire communication was the subject of the reports of V.M. Volshonok "Electrical Transistorized Units of Facsimile Devices", M.M. Matveyev "Transistorized Equipment for Automatic Telephone Exchanges", and V.V. Shtager "The Use of Transistorized Equipment for Building Small Electronic Automatic Telephone Exchanges", - T.M. Agakhanyan, N.S. Bedova, L.N. Patrikeyev reported on "Transistorized Adders for High-Speed Computers". They discussed three parallel adder versions and two serial adder versions, designed for adding and subtracting bi-

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A Conference on the Theory and Practice of Transistor Application

nary numbers. - O.P. Baranov read the report "Transistorized Oxillators Producing Relaxation Oscillations". The calculation method presented by the author is clear and simple but provides sufficient accuracy for practical purposes. - G.N. Slavskiy and A.M. Gribankina reported on "An Investigation of Transistorized Relaxation Circuits". They investigated transistorized relaxation circuits, multivibrators, kipp relays. - In his report "Transient Processes in Simple Key Circuits", S.Ya Shats presented approximated expressions for the switching duration, which is to be determined by a frequency dependence. The specific influence of transient capacitances on the pulse shape was considered. - "A Transistorized Frequency Divider With a Variable Division Factor" was the topic of N.K. Igolkin's report. - V.I. Lebedev, Yu.A. Kamenetskiy read their paper on "Restoring the Direct Component of a Pulse Voltage in Transistorized Elements". They explained the dependences of semiconductor parameters on the

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A Conference on the Theory and Practice of Transistor Application

frequency characteristics. - V.I. Shpenik's report had the title "Semiconductor Parametric and Balancing Voltage Stabilizers". - V.I. Stafeyev submitted two reports "The Unbalanced Conductivity Parameter Modulation as a New Principle of Functioning of Semiconductor Devices" and "Magnetic Diodes". The author showed the possibility of creating new types of semiconductor devices, based on the action on an unbalanced carrier concentration. The theoretical conclusions were confirmed experimentally. - G.N. Slavskiy and L.N. Arkhipets reported on "A Transistorized, Wideband, Active, Low-Frequency RC Filter". - L.Ya Shapiro and A.S. Fedorov discussed "A Wideband Vectormeter for the Frequency Range of 10 kc to 20 Mc". They explained a device for direct combined measurements of modulus and phase of the complex voltage transmission factor of active and passive two-terminal pair networks. The frequency vectormeter range is 10 kc to 20 Mc. The modulus measurement range is 0 -  $\pm$  80 db, the phase mea-

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A Conference on the Theory and Practice of Transistor Application

suring range is 0-360°C, the accuracy is not below  $\pm 5\%$ . The results of the effort in developing and practical application of transistors was reviewed in the decisions of the conference. The conference showed new ways and directions for a large-scale introduction of semiconductro engineering in all principal branches of the USSR economy.

SUBMITTED: April 20, 1959

Card 8/8

DMITRIYEV, Lev Nikolayevich; SHERSTOBOYEV, A.A., red.

[Group method for manufacturing printed circuits and  
the resolving capability of diagramatic silk nets]  
Gruppovoi metod izgotovleniya pechatnykh skhem i raz-  
reshaiushchaya sposobnost' shemokograficheskikh setek.  
Leningrad, 1965. 30 p. (MIRA 18:5)

SHERSTOBOYEV, K. N.

SHERSTOBOYEV, K. N. and GAKLIN, R. I. (Irkutsk Scientific Research Veterinary  
Experimental Station). Prophylaxis of paratyphous abortion in mares with bacteriophage

So: Veterinariya; 23; 5-6; May/June 1946; Uncl.

TABCON

SHERSTOBŌEV, K. N.

Candidate of Biological Sciences, Irkutsk Veterinary Experimental Station.

"Concerning the coli-gertnerian bacteriophage."

SO: BACTERIOPHAGIA IN VETERINARY PRACTICE, Proceedings of the Veterinary Section  
of the Academy, P. 32, Moscow, 1947. Trans. 191, by L. Lulich, Uncl.

SHKAPOTOBOYEV,  
~~SHKAPOTOBOYEV~~, K. N.; GAKLIN, R. I.

"Aujezsky's disease."

SO: Veterinariia 25(12), 1948, p. 19

\* from same source, in 1948 Letopis' Zhurnal'nykh Statey, No. 47, item 42544, which is identical.

Aladar Aujezsky (contemporary Hungarian physician) disease, pseudohydrophobia; pseudorabies; an infectious (virus) bulbar paralysis of cattle, horses and other domestic animals, first observed in Hungary and Brazil, where it is called the "scratching pest." (Amer. Illustrated Med. Dictionary - Dorland, pp 166; 437 rrr)



SHERSTOBOYEV, K.N.

Characteristics of variability of sporogenous micro-organisms.  
Mikrobiol. zhur. 17 no.3:46-54 '55 (MLRA 10:5)

1. Z Bilotserskivs'kogo sil's'kogospodars'kogo institutu  
(BACTERIA,  
sporogenous, variability, review) (Uk)

SHERSTOBOEV, K.N.

USSR/Microbiology. General Microbiology.

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Abs Jour: Ref. Zhur.-Biol., No 7, 1958, 28815.

Author : Sherstoboev, K.N.

Inst : Not given.

Title : Tinctorial Properties of Bacterial Spores.

Orig Pub: Tinktorialnye svoystva spor bakteriy.

Nauch. zap. Belotserkovsk. s.-kh. in-t, 1956, 4, 119-125.

Abstract: In the same species of microorganisms, in the same culture with the same method of staining, 6 different spore stains were found: light blue, weakly stained, normally stained, intensely stained, violet, and blue. The presence of different tinctorial types indicates a difference in the organic composition of spores. By testing preparations from cultures grown on a liquid medium placed in Pasteur pipettes sealed at the bottom capillary portion and into

Card : 1/2

to depend not on the age of the spores, but on the degree of the medium's aeration, which influences the character

SHERSTOROVYEV, K.N.

Measuring microscopic objects with AM-9-2 screw-type ocular  
micrometer. Lab. delo 4 no.5: 53-54 S-O '58 (MIRA 11:11)  
(MICROMETER)

SHERSTOBOYEV, K.N.

A new strain of bacilli forming mobile colonies, *Bacillus colonimobile* [with summary in English]. *Mikrobiologiya* 27 no.5:641-645  
S-0 '58 (MIRA 11:12)

1. Belotserkovskiy sel'skokhozyaystvennyy institut.  
(BACILLUS,  
colonimobile (Rus))

SHERSTOBOYEV, K.N.

Movement of bacterial colonies. Mikrobiologiya 30 no.1:91-98 Ja-F  
'61. (MIRA 14:5)

1. Belotserkovskiy sel'skokhozyaystvennyy institut.  
(BACILLUS COLONIONIOBILE)

SHERSTOBOYEV, K.N.

Fractionation of spores by centrifugation. Mikrobiologiya 30 no.6:  
1070-1074 N-D '61. (MIRA 14:12)

1. Sel'skokhozyaystvennyy institut Belaya Tserkov'.  
(BACTERIOLOGY--TECHNIQUE)

AUTHORS: Freytsis, I. D., Engineer, Sherstoboyev, M.K., Engineer SOV/119-58-10-1/19

TITLE: Automatic Station for a Many-Point Temperature Control  
(Avtomaticheskaya stantsiya mnogotochechnogo regulirovaniya  
temperature)

PERIODICAL: Priborostroyeniye, 1958, Nr 10, pp 1-5 (USSR)

ABSTRACT: The following works where automatic temperature control is  
used are mentioned (works located in Leningrad):

"Elektrosila" factory imeni Kirov	with 48 transmitters
Radioworks imeni "Kozitskiy"	with 72 transmitters
Plastics factory imeni "Komsomol'skaya pravda"	with 300 transmitters
Shoe factory "Skorokhod"	with 120 transmitters.

The plant at the "Skorokhod" is a telemechanical apparatus  
with valve controlled elements; it performs the following  
operations:

- 1) Temperature control of a maximum of 150 transmitters.
- 2) Automatic temperature control: In the case of cooling as  
well as in the case of an overheating the place of deviation

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SOV/119-53-10-1/10

Automatic Station for a Many-Point Temperature Control

must be located by signals.

- 3) Automatic control and signalling from all transmitters.
- 4) Optional temperature measurement operated by telephone dialling to any automatic transmitter station.
- 5) Graphical representation of the temperature for any transmitter at any time.
- 6) Pre-set control of temperature as a function of time for any object by means of a special supplementary apparatus. The electrical block scheme of the station can be divided into the following sections:
  - a) Scanning device.
  - b) Measurement scheme with valve amplifier and control unit.
  - c) Automatic control.
  - d) Desk for remote measurement and recording of temperature.
  - e) Pre-set control.

The electric circuit diagram of the scanning device and that of the measuring scheme of the station are given. The way of operation of their individual parts is partly described. The desk for remote control, the control blocks and the commutators are shown by photographs. It turned out that the plant needs a minimum of service. The works electrician is employed at several stations for operating such a unit.

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SOV/119-58-10-1/19

Automatic Station for a Many-Point Temperature Control

One pickup transmitter costs about 300 Roubles. The employment of a 72-transmitter station in the "Kauchuk" factory saved 100 000 Roubles in one year. There are 5 figures.

Card 3/3

SHERSTOBOYEV, N.Ya.

Contribution to the history of hydraulic engineering and soil improvement  
in our country. Gidr.i mel.6 no.4:55-62 Ap '54. (MLRA 7:5)  
(Hydraulic engineering) (Soil conservation)

99-7-17/14

SUBJECT: USSR/Melioration

AUTHOR: Sherstoboyev, N.E., Candidate of Mechanical Sciences.

TITLE: "Problems of Hydrotechnical and Meliorative Engineering of Leningrad in the Past" (250th Anniversary of Leningrad)  
(Iz gidrotekhnicheskogo i meliorativnogo proshlogo Leningrada)  
(k 250-letiyu Leningrada)

PERIODICAL: "Gidrotekhnika i Melioratsiya", 1957, # 7, pp 48-57, (USSR)

ABSTRACT: The first drainage projects of the Leningrad area were started by Peter the Great, when the Peterhof, Gatchina and Oranienbaum districts were reclaimed. During the government of Peter the Great, Hydro-Engineer Skornyakov-Pisarev prepared plans for the construction of the Ladoga Canal and Kopchmin prepared plans for the building of the Neva-Volga Canal. During the Peter the Great's epoch the following Russians became well-known for their achievements in the field of hydraulic engineering: Zemtsov, Hannibal, Lomonosov. With the advent of Communism, however, drainage projects covering thousands of hectares were carried out. In the Leningrad district, for example, are 8 machine-melioration stations with 44 machine-tractor detach-

Card 1/2

99-7-11/14

TITLE:

"Problems of Hydrotechnical and Meliorative Engineering of Leningrad in the Past" (250th Anniversary of Leningrad)  
(Iz gidrotekhnicheskogo i meliorativnogo proshlogo Leningrada)  
(k 250-letiyu Leningrada)

ments presently engaged in reclamation work where in 1953 alone, have 31,200 hectares been drained, and during the 6th 5-year-plan the drainage of additional 165,300 hectares, the shrubbery clearance of 87,000 ha, the reclamation of 101,500 ha of virgin and follow land is being planned.

The article lists 51 references, all Slavic.

ASSOCIATION:

PRESENTED BY:

SUBMITTED:

AVAILABLE: At the Library of Congress.

Card 2/2

SHERSTOBOYEV, N.Ya., kand.tekhn.nauk

From the remote past of hydraulic engineering in the U.S.S.R.  
Gidr. i mel. 12 no.9:42-48 S '60. (MIRA 13:9)  
(Hydraulic engineering)

SHERSTOBOYEV, N.Ya.; kand.tekhn.nauk (Leningrad)

History of the subsurface drainage in the U.S.S.R. Gidr.i mel.  
14 no.3:46-54 Mr '62. (MIRA 15:4)  
(Drainage)

SHERSTOBOYEV, N.Ya., kand.tekhn.nauk (Leningrad)

History of soil draining with closed drainage in the U.S.S.R.  
(conclusion). Gidr. i mel. 14 no.4:47-56 Ap '62. (MIRA 15:5)  
(Drainage)

1. SHERSTOBOYEV, V. N.; BOYARSHINOVA, Z. YA.
2. USSR (600)
4. Ilimsk Voivodeship - Agriculture
7. Books about the Russian settlement of Siberia, ("Arable land of Ilimsk", V. N. Sherstoboyev; "The population of the Tomsk District in the first half of the 17th century", A. Ya. Boyarshikova, reviewed by S. A. Tokarev), Sov. etn., no. 1, 1953.
9. Monthly List of Russian Accessions, Library of Congress, April 1953, Uncl.



~~SHERSTOBOYEV~~, Vadim Nikolayevich; SHOTSKIY, Vladimir Porfir'yevich;  
KROTOV, V.A., red.; STRILEVA, G.F., red.; SOROKINA, T.I.,  
tekhn.red.

[Agricultural regions of Irkutsk Province; materials on the  
agricultural regionalization of Irkutsk Province] Sel'sko-  
khozisistvennye raiony Irkutskoi oblasti; materialy po  
sel'skokhoziaistvennomu raionirovaniu Irkutskoi oblasti.  
Irkutsk, Irkutskoe knizhnoe izd-vo. No.2. 1958. 75 p.  
(MIRA 14:4)

(Irkutsk Province--Agricultural geography)

KOMAROVSKAYA, Vera Pavlovna; SHERSTOBOYEV, V.N., prof., red.; STRILEVA, G., red.; YURGANOVA, M., tekhn. red.

[Agricultural development and specialization in the Angara-Il'm subzone of Irkutsk Province; materials on the agricultural zoning of Irkutsk Province] Razvitie i spetsializatsiia sel'skogo khoziaistva Angaro-Il'mskoi podzony Irkutskoi oblasti; materialy po sel'skokhoziaistvennomu raionirovaniu Irkutskoi oblasti. Pod red. V.N.Sherstoboeva. Chita, Akad.nauk SSSR. No.3. 1958. 164 p. (MIRA 14:6)

(Irkutsk Province--Agriculture)

SHERSTOBOYEV, V.N.

Systems of field crop cultivation in Irkutsk Province. Trudy Vost.-  
Sib. fil. AN SSSR no.29:47-54 '59. (MIRA 13:9)  
(Irkutsk Province--Field crops)

USSR/Diseases of Farm Animals - Diseases of Unknown Etiology.

R-3

Abs Jour : Ref Zhur - Biol., No 4, 1958, 16949

Author : Sherstoboyeva, M.A., Ivanova, L.I.

Inst : Belaya Tserkov Agricultural Institute.

Title : Study of the Mineral Composition of Bones in Infectious Rhinitis of Swine.

Orig Pub : Nauchn. zap. Belotserkovsk. s.-kh. in-t, 1957, 6, 125-131

Abstract : The chemical composition of the nasal bones of 3 healthy pigs, and 11 pigs affected with infectious rhinitis (IR) was studied. It was found that in IR a considerable decrease of the Ca content in the bones, a slight increase of P, and a decrease of Mg occurs. These changes become more marked with the development of the disease. No changes of Al and Fe were observed. -- Ye. M. Berkovich.

Card 1/1

The Influence of Inhomogeneities on the Dark and  
Photochemical Decomposition of the Permanganate-Ion

78-3-5-5/39

accelerates the decomposition of  $MnO_4$  ions, as well in  
darkness as in light. A photochemical reduction of the  
permanganate ion proceeds under the influence of photons.  
There are 6 figures and 10 references, 1 of which is Soviet.

ASSOCIATION: Belotserkovskiy sel'skokhozyaystvennyy institut  
(Belaya Tserkov' Agricultural Institute)

SUBMITTED: May 22, 1957

AVAILABLE: Library of Congress

1. Permanganate ions--Decomposition--Effects of light 2. Per-  
manganate ions--Decomposition--Test results

Card 2/2

17(1)  
AUTHORS: Kachan, A. A., Sherstoboyeva, M. A. SOV/20-124-3-61/67

TITLE: Effect of Light on the Electroconductivity of Potato Leaves  
(Veystviye sveta na elektroprovodnost' list'yev kartofelya)

PERIODICAL: Doklady Akademii nauk SSSR, 1959, Vol 124, Nr 3, pp 707-710 (USSR)

ABSTRACT: The illumination of the filamentous alga Clodophora and of the unicellular alga Chlorella with an electric bulb reduced the electroconductivity of the system. It increased again with subsequent darkening (Ref 1). This fact mainly reflects the change in the ion concentration of the culture solution: during illumination, the algae absorb ions from the solution, after the switching-off of the light, part of the ions from the cells are returned into the solution. In view of several important conclusions arrived at by L. G. Yaglova (Ref 1), the authors considered it an interesting task to obtain direct test results on the nature of the change of the conductivity of the green plant parts both during illumination and immediately after the switching-off of the light. The electroconductivity was measured in an electrode cell (Fig 1). Newly picked potato and Echeveria leaves were washed in aqua destillata and dried. A 500 watt projector bulb served as a light source. The light was directed onto the cell by means of a large condenser. Infrared rays

Card 1/3

Effect of Light on the Electroconductivity of Potato Leaves SOV/20-124-3-61/67

were absorbed through a filter from a  $\text{CuSO}_4$  solution. Figure 2 shows the changes in the specific conductivities in an old (1) and a young (2) potato leaf. During the first few seconds of illumination the electroconductivity of the leaf rises rapidly. Then it ceases to increase and remains constant. After the switching-off of light the conductivity decreases. The chlorophyll-free subsoil vegetables (beetroot and carrots) show no changes in conductivity. Typical ferment toxins (Ref 5) that are directly related with photosynthesis (hydroxylamine hydrochloride, o-phenanthroline, copper sulfate) suppress the change effect of the conductivity (Fig 3). Thus the considerable role played by ferments in the photosynthesis of the potato leaf can be demonstrated. Figure 4 presents the results of control tests with Echeveria leaves. It can be considered a proven fact that light, during the first few seconds after its action, is the chief factor responsible for the rise in the electroconductivity of the potato leaves. L. G. Yaglova (Ref 1), however, could not notice this fact in her experiments. Further studies of the effect of light on the leaves of various plants may be of importance, not only for theory but also for practical application. There are 4 figures and 5 references, 2 of which are Soviet.

Card 2/3

Effect of Light on the Electroconductivity of Potato Leaves SOV/20-124-3-61/67

ASSOCIATION: Belotserkovskiy sel'skokhozyaystvennyy institut  
(Belaya Tserkov' Agricultural Institute)

PRESENTED: September 24, 1958, by A. L. Kursanov, Academician

SUBMITTED: May 8, 1958

Card 3/3



S/073/63/029/001/008/009  
A057/A126

AUTHORS: Kul'skiy, L.A., Kachan, A.A., Sherstoboyeva, M.A., Timoshenko, T.K.

TITLE: The catalytic activity of silver water upon the oxidation of indigo-carmin by hydrogen peroxide

PERIODICAL: Ukrainskiy khimicheskiy zhurnal, v. 29, no. 1, 1963, 106 - 108

TEXT: The peroxidase activity of silver water (Agw) which is known as a strong bactericide was investigated at the Institut obshchey i neorganicheskoy khimii AN USSR, Belotserkovskiy institut (Institute of General and Inorganic Chemistry AS UkrSSR, Belotserkov Institute) using as a model the reaction between  $H_2O_2$  and indigocarmin (IC). The peroxidase activity of Agw was compared with the activity of silver ions, and solutions containing dispersed silver,  $Ag_2O$  and  $AgCl$ . The effect of casein was also studied. The experiments were carried out with  $5 \cdot 10^{-4}$  M IC solutions at pH  $\sim 5.9$ , and the reaction was controlled by measuring the optical density ( $605 m\mu$ ) of the solution. It was observed, in agreement with literature data, that the reaction of IC decolorization with  $H_2O_2$  occurs by the first order in relation to IC. The obtained values of the reaction

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The catalytic activity of silver water upon ....

S/073/63/029/001/00S/009  
A057/A126

rate constants for the oxidation of IC with  $H_2O_2$  demonstrate the peroxidase activity of Agw and also (but less) of  $Ag_2O$  colloidal silver, respectively. The activation energy is not changed by the presence of the catalyst, thus indicating the connection of the catalytic effect with an increase of the entropy of the system. This is assumed to be related to an increase of the number of active particles (formed by decomposition of  $H_2O_2$ ), which decompose IC more easily. The assumption was proved by experiments with an inhibitor (pyrophosphoric acid and  $\gamma$ -hydroxyquinoline). This inhibitor of the  $H_2O_2$  decomposition inhibited also the IC decomposition. It was also proved experimentally that Agw promotes the catalytic activity of casein on the oxidation of IC by  $H_2O_2$ . There are 3 figures and 1 table.

ASSOCIATION: Institut obshchey i neorganicheskoy khimii AN USSR, Belotserkovskiy s/kh Insitut (Institute of General and Inorganic Chemistry AS UkrSSR, Belotserkovsk s/kh Institute)

SUBMITTED: February 16, 1962

Card 2/2

SHERSTOBITOV, Ivan Sergeyevich, kand.tekhn.nauk, starshiy nauchnyy sotrudnik

Special features of commutation in inverted single-armature  
converters with single splitting of poles. Izv.vys.ucheb.zav.;  
elektromekhanika 8 no.6:694-701 '65.

(MIRA 18:8)

SHERSTOBITOV, M.A.; POPEL', S.I.; TSAREVSKIY, B.V.

Methods of determining the rate of penetration of melts into  
capillary porous materials. Porosh. met. 5 no.8:50-54 Ag '65.  
(MIRA 18:9)

1. Ural'skiy politekhnicheskii institut imeni Kirova.

KHALILOV, A.Kh.; PARFEN'YEV, I.; AKCHURIN, B.S., kand.veterinarnykh nauk;  
ALPAROV, D.A., kand.biologicheskikh nauk; GAREYEV, M.S., mladshiy  
nauchnyy sotrudnik; SHERSTOV, S.V.

Use of tissue preparations. Veterinariia 38 no.1:25-26 Ja '61.  
(MIRA 15:4)

1. Sekretar' Charodinskogo rayonnogo komiteta Kommunisticheskoy  
partii Sovetskogo Soyuza Dagestanskoy SSR (for Khalilov).
  2. Glavnyy veterinarnyy vrach Orzhitskogo rayona, Poltavskoy oblasti  
(for Parfen'yev). 3. Bashkirsкая nauchno-issledovatel'skaya  
vetbaklaboratoriya (for Akchurin, Alparov, Gareyev). 4. Glavnyy  
veterinarnyy vrach Upravleniya myaso-molochnoy i rybnoy promyshlen-  
nosti Zaporozhskogo sovnarkhoza (for Sherstov).
- (Tissue extracts) (Stock and stockbreeding)

UDOVENKO, V.V.; SHERSTOROVYEVA, M.A.

Complex compounds of cupric chloride with monoethanolamine. Ukr.  
khim. zhur. 31 no.1:23-26 '65. (MIRA 18:5)

1. Kiyevskiy politekhnicheskii institut.

УДК 634.9:634.9

USSR, Cultivated Plants Grains.

Res Jour : Vestnik - Biol., No 10, 1956, 44016

Author : Kharsova, K.H.

Inst : Yakutsk Scientific Research Institute for Agriculture

Title : Selection of Grain Cultivars in Yakutia

Orig Pub : Izv. Nauchno-Issled. Inst. Yakutskogo n.-i. in-sta s. k.,  
1957, I, 5-8

Abstract : A number of varieties classified at present according to  
the regions of Yakutia were developed by the method of  
individual and mass selection. Wheat varieties: Yakutian-  
ka 224, Ferruginea 966, Tayannaya 4, Pobeda, improved  
Skorospelka. Oat varieties: Lagansky 44, quick-maturing  
Yakutski 1708, Mestny quick-maturing. Barley: improved  
Mestnaya. Spring rye: improved Mestnaya. -- V.D. Skry-  
shova

Card 1/1

- 8 -

SHERST'OVA, O.S.

Afferent impulsion in the sciatic nerve of rabbits in experimental inflammation in the gastrocnemius muscle. Fiziol. zhur. [Ukr.] 10 no.1:109-113 '64. (MIRA 17:8)

1. Kafedra normal'noy fiziologii Kishinevskogo meditsinskogo instituta Moldavskoy SSR.



KOSTYLEV, S.A.; SHERSTYAK, B.N.

Electron diffraction study of the structure of sublimated  
ZnS and ZnS - Mn films. Kristallografiia 8 no.3:456-459  
My-Je '63. (MIRA 16:11)

1. Dnepropetrovskiy gosudarstvennyy universitet.

5 (2)

AUTHORS:

Reznik, B. Ye., Dlugach, R. Ye.,  
Sherstyak, D. N.

SOV/153-2-5-6/31

TITLE:

The Kinetics of the Formation Reaction of the Rhodanide  
Complex of Molybdenum in the Presence of Copper Ions

PERIODICAL:

Izvestiya vysshikh uchebnykh zavedeniy. Khimiya i khimicheskaya  
tekhnologiya, 1959, Vol 2, Nr 5, pp 674-678 (USSR)

ABSTRACT:

The determination method of molybdenum (VI) can be completed by the introduction of copper ions (II), since the otherwise very slow reaction of the molybdenum by thio-urea in the presence of rhodanide (reaction 1) is accelerated by copper (Ref 1). The authors studied the kinetics of the reaction (1) in the presence of copper sulfate to use it in the determination of small quantities of copper. The reaction rate was recorded on the basis of the temporal variation in optical density of the solutions of the rhodanide-molybdenum complex. Diagrams of the results were drawn (Fig 1). The tangent of the angle of inclination between the straight line obtained and the abscissa axis shows the reaction rate. Figures 2 and 3 show the dependence of the mentioned tangent on the concentration of the copper and molybdenum ions. The dependence of the

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The Kinetics of the Formation Reaction of the  
Rhodanide Complex of Molybdenum in the Presence of Copper Ions

SOV/153-2-5-6/31

reaction rate on the concentration of the thio-urea is also linear. This shows that the concentration of these substances follows a kinetic equation of 1st order (Ref 2). By comparison of the calculated rate constant  $k$  and the catalytic reaction coefficient  $\alpha$ , a considerable catalytic action of the copper ions on the reaction (1) is shown. The authors determined the catalytically detectable minimum copper quantity to be

$1.8 \cdot 10^{-6}$  mol/l. Figure 2 shows that the reaction rate of the copper concentration is proportional. The authors determined the copper concentration of the solution by using the gaging curve (Fig 2). Table 1 lists the results. To clarify the possibility of copper determination in aluminum alloys, the influence of foreign ions was studied. Table 2 shows that the ions  $Al^{3+}$ ,  $Mn^{2+}$ ,  $Zn^{2+}$ ,  $Cd^{2+}$ ,  $Ti^{3+}$  and  $SiO_3^{2-}$  increase the optical density of the solution to a certain extent, but do not change the reaction rate. Table 3 shows the results of the determination of copper on the background of large aluminum quantities. Figure 4 shows that also the iron ion (III) increases the optical density of

Card 2/3

The Kinetics of the Formation Reaction of the  
Rhodanide Complex of Molybdenum in the Presence of Copper Ions

SOV/153-2-5-6/31

the solution (Fig 6). Figure 5 confirms the slow reduction of the iron ions (III) by thio-urea. Therefore the optical density is, in the presence of iron, the sum of the colorings of the disturbing iron-rhodanide- and the molybdenum-rhodanide-complex. There are 6 figures, 3 tables, and 4 Soviet references. ✓

ASSOCIATION: Dnepropetrovskiy gosudarstvennyy universitet; Kafedra  
analiticheskoy khimii (Dnepropetrovsk State University,  
Chair of Analytical Chemistry)

SUBMITTED: May 24, 1958

Card 3/3

ACC NR: AR6030495

SOURCE CODE: UR/0275/66/000/006/B014/B015

AUTHOR: Maronchuk, Yu. Ye; Sherstyakov, A. P.

TITLE: Formation of hexagonal phase in CdTe epitaxial layers

SOURCE: Ref. zh. Elektronika i yeye primeneniye, Abs. 6B97

REF SOURCE: Sb. Simpozium. Protsessy sinteza i rosta kristallov i plenok poluprovodnik. materialov, 1965. Tezisy dokl. Novosibirsk, 1965, 20-21

TOPIC TAGS: crystal growing, semiconductor film, epitaxial growing

ABSTRACT: The production of CdTe epitaxial layers on (100)-spalls of salts and texturized layers (the (111)-plane of CdTe is perpendicular to the backing) on amorphous backings is described. Electron-diffraction studies revealed the presence of cubic and hexagonal phases. The hexagonal-phase concentration increases with the backing temperature, reaches maximum at 400C, and then falls off. At 350C, maximum orientation of layers on an amorphous backing occurs. The mechanism of formation of the hexagonal phase and texture in thin CdTe layers is discussed. The effect of the hexagonal phase and texture on the electrophysical properties of the layers is considered. Ye. M., A. Sn. [Translation of abstract]

SUB CODE: 11, <sup>20</sup>62

Card 1/1

UDC: 621.315.592.548.28:546.48'24

1 47705-56 ENT(M)/I/END(C) ETI I H (C) JD  
ACC NR: AR6025743 SOURCE CODE: UR/0058/66/000/004/A071/A071

AUTHOR: Maronchuk, Yu. Ye.; Sherstyakov, A. P.

TITLE: On the process of formation of the hexagonal phase in epitaxial layers of cadmium telluride

SOURCE: Ref. zh. Fizika, Abs. 4A595

REF. SOURCE: Sb. Simpozium. Protsessy sinteza i rosta kristallov i plenok poluprovodnik. materialov, 1965. Tezisy dokl. Novosibirsk, 1965, 20-21

TOPIC TAGS: epitaxial growing, cadmium telluride, phase transition, electron diffraction analysis, temperature dependence, semiconducting film

ABSTRACT: A technology is described for obtaining epitaxial layers of CdTe on (100) cleavage surfaces of halogens and on textured layers (with (111) plane of CdTe perpendicular to the substrate) on amorphous substrates. Electron-diffraction investigations point to the presence of cubic and hexagonal phases. With increasing substrate temperature, the concentration of the hexagonal phase increases, reaches a maximum at 400C, and then decreases. The orientation of the layers on the amorphous substrate is maximal at 350C. The mechanism of formation of the hexagonal phase and of the texture in thin layers of CdTe is discussed. [Translation of abstract].

SUB CODE: 20

Card 1/1

MARONCHUK, Yu. V.; KRIVOPOLTOV, Ye. A.; SHERSTYAKOV, A. P.

Processes of the formation of single-crystal films of cadmium  
and mercury telluride. Vych. sist. no. 15:67-82 '65. (MIRA 18:6)

1. Institut fiziki poluprovodnikov Sibirskogo otdeleniya AN  
SSSR.

L 9218-66 EWT(1)/EWT(m)/ETC/EWG(m)/T/EWP(t)/EWP(b) LIP(c) RIM/ID/JG/GG  
ACC NR: AR6000121 SOURCE CODE: UR/0058/65/000/008/EO46/EO46

SOURCE: Ref. zh. Fizika, Abs. 8E343

AUTHORS: Maronchuk, Yu. Ye.; Krivorotov, Ye. A.; Sherstyakov, A. P.

ORG: none

TITLE: On the processes of formation of single-crystal films of cadmium and mercury telluride

CITED SOURCE: Sb. Vychisl. sistemy. Vyp. 15. Novosibirsk, 1965, 67-75

TOPIC TAGS: single crystal growing, mercury, cadmium, telluride, polycrystalline film, temperature dependence

TRANSLATION: The authors consider the processes of growing single-crystal layers of CdTe and HgTe, the influence of the composition of the vapor, of the temperature, and of the substrate parameters on the structure of the produced films. The presence of an excess of mercury vapor results in highly oriented single-crystal films of n-type with high carrier mobility ( $6-8 \times 10^3 \text{ cm}^2/\text{v-sec}$ ). The films contained mutually oriented cubic ( $a = 6.429 \text{ \AA}$ ) and hexagonal phases ( $a = 4.58 \text{ \AA}$ ,  $c = 7.46 \text{ \AA}$ ). At low mercury pressures and at slow evaporation, polycrystalline films of HgTe of p-type were grown with low carrier mobility ( $50-10 \text{ cm}^2/\text{v-sec}$ ) and very small crystalline grains. The thermodynamic calculations and the experimental results show that the single-crystal HgTe dissociates when heated in vacuum. A study was made of the influence of the orientation of the substrate material on the orientation of the CdTe

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L 9218-66

ACC NR: AR6000121

0

films. The presence of cubic and hexagonal phases was also observed in CdTe layers; the fraction of the hexagonal phase decreased with increasing substrate temperature. It is proposed that the appearance of the hexagonal phase in the HgTe and CdTe films is due to the influence of the composition of the vapor on the structure of the grown layers. Yu. Dymshits.

SUB CODE: 20

Card 2/2

ACC NR: AR6019914

SOURCE CODE: UR/0275/66/000/002/B018/B018

AUTHOR: Maronchuk, Yu. Ye.; Krivorotov, Ye. A.; Sherstyakov, A. P.

TITLE: Processes involved in the formation of single crystal films of cadmium and mercury telluride

SOURCE: Ref. zh. Elektronika i yeye primeneniye, Abs. 2B132

REF SOURCE: Sb. Vychisl. sistemy. Vyp. 15. Novosibirsk, 1965, 67-75

TOPIC TAGS: cadmium telluride, mercury, telluride, <sup>compound</sup> surface film, single crystal growing

ABSTRACT: The processes involved in growing single crystal layers of CdTe and HgTe, the effect of vapor composition, temperature, and the parameters for the base on the structure of the films formed are reviewed. When there is an excess of mercury vapor what is obtained on the base is a highly oriented single crystal n-type film with a highly mobile carrier ( $6$  to  $8 \times 10^3$  cm<sup>2</sup>/volt-second). Mutually oriented cubic ( $a = 6.429\text{\AA}$ ) and hexagonal phases ( $a = 4.58\text{\AA}$ ,  $c = 7.46\text{\AA}$ ) were present in the films. At low mercury pressures and with slow evaporation polycrystalline p-type HgTe films with carriers with little mobility ( $50$  to  $10$  cm<sup>2</sup>/volt-second) and very small crystalline grains were grown. The thermodynamic calculation was made, and the experimental results showed that single crystals of HgTe disassociate upon

UDC: 621.315.592:548.552:546.24'48/.49

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ACC NR: AR6019914

being heated in a vacuum. The effect of the orientation and of the substance of which the base is made on orientation of the CdTe film was studied. The percentage of the hexagonal phases fell with reduction in base temperature. It is assumed that the hexagonal phase phenomenon in the HgTe and CdTe films is the result of the effect of the vapor composition on the structure of the layers grown. Yu. D.  
[Translation of abstract]

SUB CODE; 20

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S/179/62/000/001/027/027  
E194/E584

26.2/20

AUTHOR: Sherstyannikov, V.A. (Moscow)

TITLE: A visual method of studying gas flow

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Otdeleniye  
tekhnicheskikh nauk. Mekhanika i mashinostroyeniye,  
no.1, 1962, 178-179

TEXT: In 1956 the author proposed the investigation of gas flow at high subsonic speeds by atomising coloured liquid in the gas (see author's certificate No.110820 of 7th December, 1957). Near the boundary surfaces of curved ducts there is considerable retardation of gas flow so that the atomised particles do not separate from the gas. The method was used to study the flow in turbine blades with various radial clearances using a rig for static blown air tests on blading. Both impulse and reaction type blading were used in the tests. The coloured liquid was injected into the flow by a nozzle 3 mm from the wall and 30 mm from the inlet edges of the blades. Various types of nozzle were tried to give uniform distribution of atomised liquid over the duct section and the best were those which gave a thin flat (and not a conical) spray. Photographs taken through the Card 1/2

A visual method of ...

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transparent duct wall are shown and flow distribution is clearly visible. There are 2 figures.

SUBMITTED: July 21, 1961

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S/096/63/000/003/005/010  
E194/E455

AUTHOR: Sherstyannikov, V.A., Candidate of Technical Sciences

TITLE: Shrouding of gas turbine blading

PERIODICAL: Teploenergetika, no.3, 1963, 34-38

TEXT: Tests to study the effects of shrouding the runner blading were made on four model turbines. Three were single-stage and differed in degree of expansion and in relative blade length. They were tested with and without shrouding and in one case with glands outside the shrouding. The fourth model turbine was two-stage and the shrouding was built on to the blade tips; tests were made with various clearances between adjacent tips, to study the influence of this clearance on vibration characteristics of the blading. In this turbine the runner blades were about half the width normally used. The model turbines were driven by air at a temperature of 110 to 130°C, and the power developed was absorbed by a hydraulic brake. With the given experimental conditions the efficiency of a turbine with shrouding and gland was up to 3.5% higher than that of the unshrouded ones and the flow was more uniform. Shrouding gives the best improvement in stages with  
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Shrouding of gas turbine blading

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relatively short blades. It was found that with shrouded blades the optimum height-to-breadth ratio was about 3; increasing this ratio to 4 caused an efficiency reduction of about 2% (somewhat less than this for unshrouded blades). Vibration resonance curves were determined with strain gauges; shrouding was found greatly to reduce vibration stresses with all modes of vibration over the entire range of turbine speeds. If shrouding is built into the blade tip, the vibration properties of the blading depend very much on the clearance between adjacent blade tips, and when it is fairly large the main type of blade oscillation is first-mode bending. With 0.5 mm clearance the shroud tips became work-hardened, and so had evidently been impacting. Vibration stresses are reduced if smaller clearances are used and in particular if the blades are welded together in bundles, as in the Rolls-Royce "Avon" engine. The damping properties of the shrouding used in the Pratt and Whitney J-57 engine are briefly discussed. Although the use of shrouding improves the vibration characteristics of blading, raises the efficiency and improves the flow structure beyond the runner, nevertheless it also reduces the static

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Shrouding of gas turbine blading

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strength of blades and so can only be used in lightly-loaded stages. There are 8 figures.

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SHERSTYANNIKOV, V.A., kand. tekhn. nauk

Study of divided-flow turbines. Teploenergetika 10 no.10:10-13  
0\*63 (MIRA 17:7)

SHERSTYUK, A.

For a high degree of effectiveness for economic propaganda.  
Vop.ekon. no.7:132-136 J1 '60. (MIRA 13:5)

1. Sekretar' Zaporozhskogo obkoma Kommunisticheskoy partii  
Ukrainy.  
(Zaporozh'ye Province--Economics--Study and teaching)

BIDULYA, P.N.; SHUL'TE, G.Yu.; PELIKH, V.N.; MLADOVA, A.A.; SHERSTYUK,  
A.A.; MIROSHNICHENKO, L.S.

Nonmetallic inclusions in malleable cast iron. Lit. proizv. no.1:  
25-27 Ja '61. (MIRA 14:1)  
(Cast iron—Defects) (Nonmetallic materials)

SHUL'TE, Yu.A.; SHERSTYUK, A.A.; KURBATOV, M.I.

Effect of phosphorus on the cold brittleness of high manganese  
steel. Lit.proizv. no.7:21-22 J1 '64.

(MIRA 18:4)

L 56456-65 EWT(m)/EWP(w)/EWA(d)/T/EWP(t)/EWP(z)/EWP(b) MJW/JD  
 UR/0304/64/000/005/0032/0033  
 ACCESSION NR: AP5018807

AUTHOR: Sherstvyk, A. A. (Engineer); Shul'te, Yu. A. (Doctor of technical sciences);  
Kurbatov, M. I. (Candidate of technical sciences) 22  
 2/

TITLE: Cold brittleness of high-manganese steel 3

SOURCE: Mashinostroyeniye, no. 5, 1964, 32-33

TOPIC TAGS: manganese steel, metal brittleness, cooling

Abstract: The physical and mechanical properties of cast high-manganese steel at low temperatures have been studied insufficiently. Many instances of breakage of parts and units of machines made of high-manganese steel caused by its cold brittleness are known. For this reason, the properties of this steel at low temperatures and the influence of its composition and engineering factors on cold brittleness were studied.

A series of samples for tensile and impact testing of one initial melt were tested in a range of temperatures of from +200 to -196 C. At each temperature, at least three samples were tested, in which cases, as a rule, the agreement of the data was satisfactory. The samples were cooled in a liquid nitrogen and alcohol mixture for 30 minutes.

Toughness, ductility and tensile strength decreased commensurate with the lowering of temperature.

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Phosphorus has the greatest influence on cold brittleness. Steels with phosphorus content of 0.034 and 0.090% are highly susceptible to cold brittleness. The cold brittleness threshold (50% loss of properties) of low-phosphorus steel was lowered to  $-140^{\circ}\text{C}$  as compared to  $-20^{\circ}\text{C}$  for steel of a conventional composition. This occurs because as the phosphorus content in steel increases, the boundaries of austenite grains are contaminated with inclusions of the phosphide eutectic causing a marked drop in the mechanical properties of the steel.

Carbon lowers cold brittleness of a steel considerably, therefore, carbon content should not exceed 1.3%. Manganese, within the analysis limits of type GI3L steel and Mn/C ratio have no appreciable influence.

The influence of modifiers of aluminum, silicon calcium, silicon zirconium, ferrotitanium, ferrocerium and their combinations on cold-brittleness of steel was studied.

When the amount of aluminum is increased from 0.04 to 0.3%, ductility and impact strength of the steel are decreased and cold brittleness is correspondingly increased, especially when the content of aluminum is greater than 0.2%.

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Adding 0.25% silicon calcium (case 2) with 27% calcium have no effect on the properties of the steel.

The modification of silicon zirconium had no appreciable influence on the cold brittleness and properties of the steel.

Admixtures of ferrotitanium (0.1% Ti) refined the steel structure into finer grains and increased impact strength and ductility by 10-15% and corresponding increased cold brittleness.

The use of a complex modifier (0.1% Al, 0.1% CaSi, and 0.1% ferrocerium) had no significant effect on cold brittleness of the steel.

At the temperature of liquid nitrogen, steel GI3L becomes brittle independent of its composition. However, when this occurs, there is no transformation of austenite into martensite. Tests made at +20°C after cooling in nitrogen showed the samples to have the usual properties.

Thus, the way to increase the cold brittleness of cast steel GI3L is to lower the phosphorus content in it.

Castings of high-manganese steel, operating at low temperatures, should be made only from low-phosphorus steel with the use of low-phosphorus (up to 0.05%) grades of ferromanganese.

Orig. art. has 1 graph and 1 table.

Card 3/4

L 56456-65

ACCESSION NR: AP5018807

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ASSOCIATION: none

SUBMITTED: 00

ENCL: 00

SUB CODE: MM, TD

NO REF SOV: 002

OTHER: 000

JPRS

Card

182  
4/4



SHUL'TE, Yu.A., doktor tekhn.nauk; PARASYUK, P.F., inzh.; SHERSTYUK, A.A., inzh.;  
MIKHAYLOV, P.A., inzh.; KURBATOV, M.I., kand.tekhn.nauk; BERKUN, M.N.,  
inzh.

Increasing the durability of high-manganese steel castings.  
Mashinostroenie no.4157-58 J1-Ag '65.

(MIRA 18:8)

KURBATOV, M.I., kand. tekhn. nauk; RIDNYY, A.A., inzh.; MAKSIMENKO, V.D., inzh.;  
SHERSTYUK, A.A., inzh.; KOSHELEV, V.I., inzh.

Effect of small additions of boron on the properties of G13L steel.  
Lit. proizv. no.9:34-35 s '65. (MIRA 18:10)

L 23081-66 EWT(m)/EWA(d)/T/EWP(t) IJP(c) JD/JG  
ACC NR: AP5029000 SOURCE CODE: UR/0128/65/000/009/0034/0035

AUTHOR: Kurbatov, M. I. (Candidate of technical sciences); Ridnyy, A. A. (Engineer);  
Maksimenko, V. D. (Engineer); Sherstyuk, A. A. (Engineer); Koshelev, V. I. (Engineer)

ORG: none

TITLE: Effect of the addition of small amounts of boron on the properties of G12L  
manganese steel

SOURCE: Liteynoye proizvodstvo, no. 9, 1965, 34-35

TOPIC TAGS: boron, nonmetallic inclusion, manganese steel, tractor / G13L manganese steel

ABSTRACT: The effect of the addition of 0.0036-0.0252% B on the structure and mechanical, technological properties and operational qualities of cast crawler-tread links of G13L manganese steel is investigated. Ferroboration was added to the bottom-pour ladles (capacity 0.3 ton) directly prior to pouring into the molds. Boron greatly changes the properties of cast steel -- B-free steel has a dendritic structure whereas B-containing steel has a stone-like finegrained structure. As a result of metallographic examination and tensile and impact tests it is established that the contamination of the austenitic structure of the steel by residual carbides increases when the residual B content exceeds 0.0108%. Boron nitrides, being crystal-

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UDC: 669.15'74-194:669.781

L 23081-66

ACC NR: AP5029000

lization nuclei, contribute to a more finegrained structure of the castings but if the B content is too high, owing to the decrease in its solubility, B, as a surface-active element, is displaced toward the grain boundaries where, evidently, its oxides, carbides and borides also are located. The mechanical properties of B-treated steel:  $\sigma_b$ ,  $\delta$  and  $\psi$ , slightly increase if B content is not more than 0.0072% but sharply decrease if the B content exceeds this limit. These findings confirm that increasing the B content above the solubility limit of B in Fe leads to the formation of a large number of nonmetallic inclusions along grain boundaries and a sharp decrease in the mechanical properties of steel, as was besides also corroborated by the bending and wear resistance tests of crawler-tread links. Thus, in the shops of the tractor plants it is advisable to inoculate steel with B in order to obtain castings with a finegrained structure provided that the B content does not exceed 0.007%. Orig. art. has: 2 tables, 1 figure.

SUB CODE: 11, 13, 20/ SUBM DATE: none/ ORIG REF: 000/ OTH REF: 000

Card

2/2 ULR